

**CLAIM AMENDMENTS, CLAIM CANCELLATIONS, AND
STATUS OF ALL CLAIMS**

Please amend claims 1, 11 and 12 as indicated below. Please cancel claims 4-7, 13, 14, 16 and 47-53. Upon entry of this amendment, the status of all claims in this application would be as follows:

1. **(currently amended)** A method of detecting the presence of *Pneumocystis carinii* in a human biological specimen, comprising:

amplifying a highly conserved region within a human-*P. carinii* nucleic acid sequence, if such sequence is present in the specimen, using two or more oligonucleotide primers that hybridize to the highly conserved region; and

determining whether an amplified sequence is present,

wherein the highly conserved region has at least 79% sequence identity with
comprises a sequence selected from the group consisting of residues 2794-3042 of *HMSGp1*
(SEQ ID NO: 1), 2758-3006 of *HMSGp3* (SEQ ID NO: 3), 2845-3090 of *HMSG11* (SEQ ID
NO: 5), 2839-3084 of *HMSG14* (SEQ ID NO: 7), 2836-3081 of *HMSG32* (SEQ ID NO: 9),
2809-3054 of *HMSG33* (SEQ ID NO: 11), or 1-249 of *HMSGp2* (SEQ ID NO: 15); ~~or at least~~
~~84% sequence identity with~~ and residues 2821-3072 of *HMSG35* (SEQ ID NO: 13);

and wherein at least one oligonucleotide primer hybridizes to residues 2794-2886
~~of *HMSGp1* (SEQ ID NO: 1), 2758-2850 of *HMSGp3* (SEQ ID NO: 3), 2845-2937 of *HMSG11*~~
~~(SEQ ID NO: 5), 2839-2931 of *HMSG14* (SEQ ID NO: 7), 2836-2928 of *HMSG32* (SEQ ID~~
~~NO: 9), 2809-2901 of *HMSG33* (SEQ ID NO: 11), 2821-2913 of *HMSG35* (SEQ ID NO: 13), or~~
~~1-93 of *HMSGp2* (SEQ ID NO: 15))~~ consists of SEQ ID NO: 17 or 18;

and wherein the presence of the amplified sequence detects the presence of
Pneumocystis carinii in the human biological specimen.

2. **(original)** The method according to claim 1, wherein amplification of the human-*P. carinii* nucleic acid sequence is by polymerase chain reaction.

3. **(previously amended)** The method of claim 1, wherein the oligonucleotide primers hybridize under low stringency conditions comprising 50°C in 6x SSC, 5x Denhardt's solution, 0.5% SDS and 100 µg sheared salmon testes DNA.

4-7 **(cancelled)**.

8. **(previously amended)** The method of claim 1, wherein the oligonucleotide primers hybridize under stringent conditions comprising 65°C in 6x SSC, 5x Denhardt's solution, 0.5% SDS and 100 µg sheared salmon testes DNA.

9. **(previously amended)** The method of claim 1, wherein the oligonucleotide primers consist of one upstream primer and one downstream primer.

10. **(previously amended)** The method of claim 9, wherein:
the upstream primer is SEQ ID NO: 17, or SEQ ID NO: 18; and
the downstream primer is SEQ ID NO: 20 or SEQ ID NO: 24.

11. **(currently amended)** The method of claim 1, wherein one of the oligonucleotide primers ~~comprises~~ is SEQ ID NO: 17.

12. **(currently amended)** The method of claim 1, wherein one of the oligonucleotide primers ~~comprises~~ is SEQ ID NO: 18.

13-16 **(cancelled)**.

17. **(previously amended)** The method of claim 1, wherein the specimen is from the oropharyngeal tract.

18. **(previously amended)** The method of claim 1, wherein the specimen is from blood.

19. **(original)** The method of claim 1, wherein the step of determining whether an amplified sequence is present comprises one or more of:

- (a) electrophoresis and staining of the amplified sequence; or
- (b) hybridization to a labeled probe of the amplified sequence.

20. **(original)** The method of claim 19, wherein the amplified sequence is detected by hybridization to a labeled probe.

21. **(previously amended)** The method of claim 20, wherein the labeled probe comprises a detectable non-isotopic label chosen from the group consisting of:

- a fluorescent molecule;
- a chemiluminescent molecule;
- an enzyme;
- a co-factor;
- an enzyme substrate; and
- a hapten.

22. **(previously amended)** The method of claim 20, wherein the labeled probe comprises SEQ ID NO: 19.

23. **(previously amended)** A method of detecting the presence of *Pneumocystis carinii* in a human biological specimen, comprising:

- exposing the specimen to a probe that hybridizes under stringent conditions to a human-*P. carinii* nucleic acid sequence, if the sequence is present in the specimen, to form a hybridization complex; and
- determining whether the hybridization complex is present,

wherein the human-*P. carinii* nucleic acid sequence is *HMSGp1* (SEQ ID NO: 1), *HMSGp3* (SEQ ID NO: 3), *HMSG11* (SEQ ID NO: 5), *HMSG14* (SEQ ID NO: 7), *HMSG32* (SEQ ID NO: 9), *HMSG33* (SEQ ID NO: 11), *HMSG35* (SEQ ID NO: 13), or *HMSGp2* (SEQ ID NO: 15); and

wherein the stringent conditions of hybridization comprise 65°C in 6x SSC, 5x Denhardt's solution, 0.5% SDS and 100 µg sheared salmon testes DNA.

24. **(previously amended)** The method of claim 23, wherein the probe comprises SEQ ID NO: 19.

25-45 **(cancelled)**.

| 2546. **(currently renumbered)** The method of claim 23, wherein the probe is a labeled probe.

47-53 **(cancelled)**.